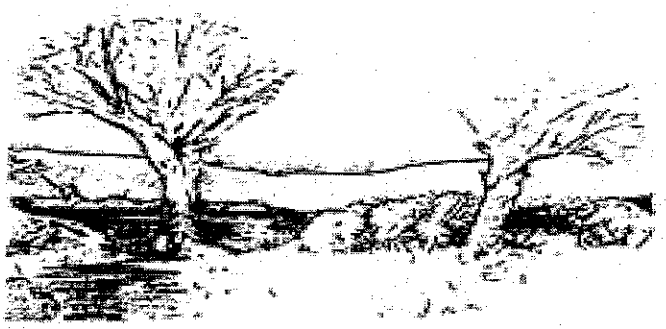


MICHAEL ATHANAS & ASSOCIATES
NORTH CAROLINA LISCENSED SOIL SCIENTEST
1999 CANDLEWICK DRIVE
FORT MILL, SOUTH CAROLINA 29715

Michael Athanas, NCLSS	*Brady Freeman, RS*
E-mail: mathanas@comporium.net	*E-mail: bfree209@yahoo.com*
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Attached is an onsite wastewater septic design for a 4 bedroom residential home on lot 15 The Point Subdivision in Iredell County, NC.

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March 1, 2011

POINT LOT 15
APPLICANT AND DESIGN SPECIFICATIONS

Applicant:	**STEVE AND TRACY HARWELL**
Phone:	**704-746-6497**
Address:	**152 OLD POST**
	MOORESVILLE, NC 28117
County:	Iredell
Location:	The Point lot 15
Application for:	4 Bedroom Single Family Residence
Gallons per day:	480
Linear feet:	480
Loading Rate (gpd/ft.2):	0.25
Trench Depth:	36"
Trench Width:	36"
Septic Tank Size:	1000
Pump Tank Size:	1000
Estimated Supply line Length/ft:	83
Supply Line Diameter:	2"
Dosing volume:	210
Lateral line volume:	313.44
Supply Manifold:	3"
Manifold Length:	36"
Pressure Head:	2'
Friction Head:	1.54
Elevation Head:	10.90
Friction factor:	1.54 per 100'
TDH:	17.33
Pump Run:	7.38
Threaded Union:	IN TANK
Gate Valves:	IN TANK
Check Valves:	IN TANK
Anti-Siphon Hole:	N/A
Design flow:	**210.0 GALLONS**
Trench Bottom FT/SQ:	**1440**
Number of fields	**1**
Supply line length	**83'**
Draw down:	**10.0"**
Comments:	Soil suitability was performed by Michael Athanas & Associates.

*Pump tank draw down based on 21 gallons per inch. Draw down may vary depending on tank manufacturers.

THE POINT LOT 15

SYSTEM TYPE	**25% REDUCTION**
SYSTEM LTAR	**0.25 GPD/FTSQ**
SYSTEM LINE LENGTH	**480**
REPAIR TYPE	*LP-PPBPS*
REPAIR LTAR	*0.25 GPD/FTSQ*
REPAIR LINE LENGTH	*323*

LINE #	FLAG COLOR	SHOT ELEVATION		LINE LENGTH
1	ORANGE	3.20		50
2	PINK	3.90		110
3	YELLOW	4.60		130
4	***PINK***	***5.30***		***120***
5	***ORANGE***	***6.20***		***120***
6	***BLUE***	***6.90***		***120***
7	***YELLOW***	***7.40***		***120***
8		8.00		33
			Total	**803**
TBM		***1.70***		
HOUSE CORNER		***10.50***		
TANK		***11.20***		

LINE#	COLOR	LENGTH	TAP SIZE
4	***PINK***	**100**	**1/2 INCH SCH. 40**
5	***ORANGE***	**100**	**1/2 INCH SCH. 40**
6	***BLUE***	**100**	**1/2 INCH SCH. 40**
7	***YELLOW***	**100**	**1/2 INCH SCH. 40**
	TOTAL	**400**	
	TOTAL FLOW GPM:	**28.44 GPM**	